

CLAIMS:

1. [Once Amended] An isolated, ~~or recombinant or synthetic~~ DNA molecule encoding
 (a) a proteoglycan expressed in retinal tissue having a membrane anchor sequence and a leucine-rich repeat motif comprising the amino acid sequence: x-x-(I, V or L)-x-x-x-x-(F, P or L)-x-x-(L or P)-x-x-L-x-x-(L or I)-x-L-x-x-N-x-(I or L) where "x" represents any amino acid, wherein an impairment in function of the proteoglycan is associated with a complete CSNB phenotype;
 (b) the amino acid sequence of SEQ ID NO: 2;
 (b) the amino acid sequence of SEQ ID NO: 2 with conservative amino acid substitutions; or
 (c) an amino acid sequence which is at least 50% homologous to SEQ ID NO: 2.
2. [Once Amended] The DNA molecule of claim 1 which is ~~expressed in tissues including the kidney and the retina~~ encodes an amino acid sequence which is at least 70% homologous to SEQ ID NO: 2.
3. The DNA molecule of claim 1 wherein said DNA is cDNA.
4. ~~[deleted]~~ The DNA molecule of claim 1 wherein said DNA is human DNA.
5. ~~[deleted]~~ The DNA molecule of claim 1 wherein said DNA is murine DNA.
6. ~~[deleted]~~ The DNA molecule of claim 1 wherein said DNA encodes nyctalopin; an amino acid sequence which is at least 50% homologous to nyctalopin; the amino acid sequence of SEQ ID NO: 2; or an amino acid sequence which is at least 50% homologous to SEQ ID NO: 2.
7. ~~[deleted]~~ The DNA molecule of claim 6 wherein said DNA encodes the amino acid sequence SEQ ID NO: 2 with conservative amino acid substitutions.

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8. [Once Amended] The DNA molecule of claim 1 wherein said DNA has the nucleotide sequence corresponding to SEQ ID NO:1 or naturally occurring allelic variants of SEQ ID. NO:1 ~~nucleotide sequences corresponding to naturally occurring alleles thereof.~~
9. [Once Amended] ~~An isolated or recombinant or synthetic DNA molecule or~~ polynucleotide comprising a nucleotide sequence corresponding to SEQ ID NO: 1, substantially homologous to SEQ ID NO:1 or a nucleotide sequence that hybridizes under highly stringent conditions to a hybridization probe having a nucleotide sequence of SEQ ID NO:1 or the complement of SEQ ID NO:1. ✓
10. The polynucleotide of claim 9 wherein said polynucleotide is selected from the group comprising:
- (a) RNA;
 - (b) cDNA;
 - (c) genomic DNA; and
 - (d) synthetic nucleic acids.
11. [Once Amended] An expression vector comprising one of the DNAs or polynucleotides of claims 1-10, 2, 3, 8, 9 or 10.
12. A cultured cell comprising the expression vector of claim 11.
13. [Once Amended] A cultured cell comprising a the DNA sequence or polynucleotide of one of claims 1 to 10, operably linked to an expression control sequence. ✓
14. A cultured cell transfected with the vector of claim 11, or a progeny of said cell, wherein the cell expresses a mammalian GPI-anchored small leucine-rich proteoglycan.

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